

Agricultural Exports and the Rural Economy in the 1990's

Improved international trade conditions in the 1990's have resulted in increased exports. Agricultural exports in 1994 were responsible for about 791,000 jobs in the U.S., including 259,000 in rural areas.

U.S. agricultural exports generate employment, income, and purchasing power in both rural and urban areas. To export agricultural products, farmers purchase fuel, fertilizer, and other necessary inputs. Agricultural exports also spur economic activity down the line in the manufacturing, trade, and transportation sectors.

In the early 1980's, agriculture, the textile industry, forestry, and the extraction of gas, oil, and coal depended heavily on foreign trade and also were important sources of rural employment. During the decade, the strength of the U.S. dollar and the worldwide recession resulted in a sharp reduction in demand for many U.S. products abroad, including many products of these four important rural industries.

Exports Have Rebounded in the 1990's

In the 1990's, however, both the weaker dollar and American support of multilateral trade liberalization, which worked to open up other countries' agricultural markets, resulted in strong exports for U.S. products. Natural resource-based products share this growth. U.S. agricultural exports, for example, which amounted to only \$35.3 billion in 1988, increased to \$42.4, \$42.5, and \$45.7 billion in 1992, 1993, and 1994. In 1994, agricultural exports supported an estimated 791,056 civilian jobs, including 485,000 in the nonfarm sector. Furthermore, *Foreign Agricultural Trade of the United States (FATUS, Nov.-Dec. 1995)* reports that agricultural exports set a record of \$54.2 billion for the fiscal year 1995, which was almost \$11 billion greater than the previous year. This striking expansion resulted in part from a 37-percent rise in bulk exports to \$24.1 billion. Almost half the gain came from corn, soybeans, and cotton. Corn shipments during fiscal year 1995 reached 58.6 million tons, valued at \$6.6 billion, compared with 33.1 million tons, worth \$3.8 billion, a year earlier. Soybean and rice exports rose in similar fashion both in tonnage and in value. Moreover, high-value product exports climbed for the 10th year in a row, advancing by 16 percent to a new record of \$30.1 billion.

America's rural economy is extremely diverse. Among the 10 farm regions, bulk exports benefit four in particular—the Corn Belt, the Pacific, and the Northern and Southern Plains. Those exporting regions rely on differing mixes of the six leading export commodities: feed grains and products, soybeans and products, wheat and products, live animals and meat, vegetables and preparations, and fruit and preparations. In 1994, the Corn Belt States exported 51 percent of the total value of feed grains and products (\$3.025 billion) which the Nation exported. By adding the export sales from four adjacent States the total rose to \$4.868 billion (79 percent). The Corn Belt also exported \$3.445 billion in soybeans (61 percent). The addition of five adjacent States brought sales to \$4.666 billion (83 percent). The four States of the Northern Plains accounted for 41 percent (\$1.770 billion) of exported wheat sales. The two Southern Plains States and the Canadian border tier of Minnesota, Montana, Idaho, and Washington increased wheat sales to \$3.165 billion or 74 percent of the total. Three Plains States, Nebraska, Texas, and Kansas, sold 41 percent of live animals and meat exported, in addition to their sizeable grain exports. The Pacific States sold 62 percent (\$2.169 billion) of exported vegetables and preparations, while California alone sold 49 percent (\$1.473 billion) of all fruit and preparations exported. The Pacific States together exported \$2.089 billion (70 percent) in fruit and preparations and Florida added another 18 percent (\$555 million).

A Third of Farm Export-Generated Jobs Are in Rural Areas

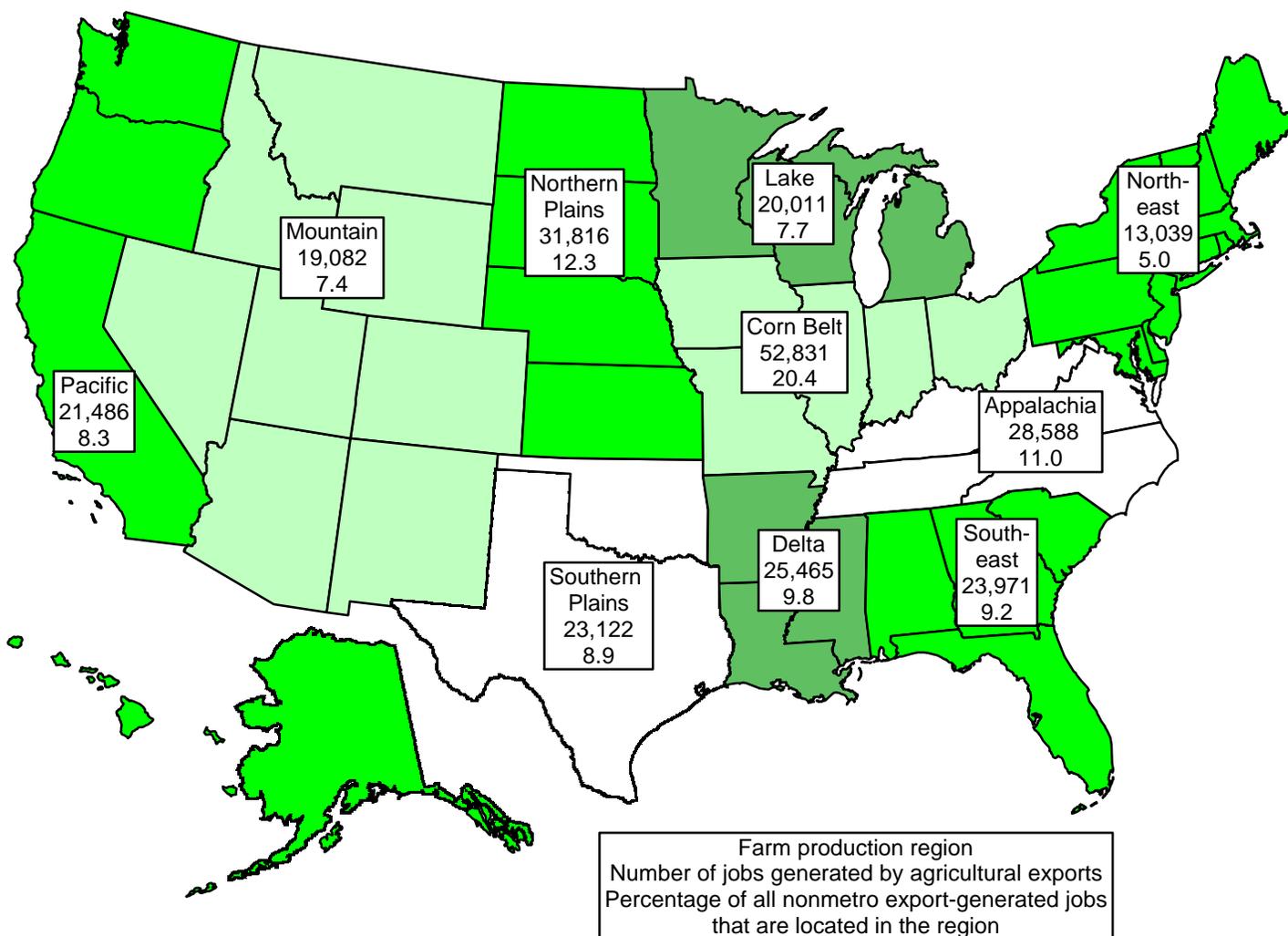
What are the implications of agricultural export growth to the rural economy? Using the 524-sector Input-Output (I/O) model and adjusted County Business Patterns data, we estimated the employment effect of 1994 agricultural exports on rural and urban areas of each State. These exports, amounting to \$45.7 billion in 1994, generated 791,056 jobs. An estimated 259,412 of the generated jobs, or 34 percent, were in rural areas. As might

be expected, agricultural exports from the Corn Belt accounted for the highest number of jobs, 52,831, which was 1.3 percent of the total rural employment in the region. The Northern Plains, with 31,816 jobs, had the highest share (2.3 percent) among the regions. And within the Northern Plains, Nebraska had the highest State share in the Nation, with 2.9 percent of rural jobs in the State created by agricultural exports.

Nonmetro employment is much more concentrated in some sectors than others. For example, out of 524 sectors analyzed, there are 48 sectors whose nonmetro share of total employment is more than 50 percent. However, most of these industries are natural resource-based, such as mining, forestry, and energy, which show minimal employment effects due to agricultural exports. For example, the pulp mill sector employs 85 percent of its workers in nonmetro areas, but agricultural exports generated only 128 full-time nonmetro jobs in that sector. The coal mining sector employs 82 percent of its workers in nonmetro areas but only 626 nonmetro jobs resulted from agricultural exports in 1994. Because they are labor intensive, some industries, such as wholesale and retail trade, services, and food and feed processing and related manufacturers, have higher levels of employment due to agricultural exports. Agricultural exports generate indirect economic activities in these sectors which result in additional nonmetro employment.

Nonmetro employment generated by agricultural exports, 1994

Corn Belt and Northern Plains gained the most nonmetro jobs from agricultural exports



Note: Alaska and Hawaii were included in the Pacific farm production region for this analysis.
 Source: Estimated by ERS.

Agriculture

Nonmetro employment generated by agricultural exports, 1994

The Corn Belt, Northern Plains, and Appalachian regions lead in export-related jobs

Item	U.S total	Northeast	Lake	Appalachia	Southeast	Delta
Number						
Total nonmetro employment	23,624,100	2,661,042	2,247,634	3,714,069	2,444,652	1,763,258
Percent						
Region's share	100	11.2	9.5	15.7	10.3	7.5
Number						
Employment due to agricultural exports	259,412	13,039	20,011	28,588	23,971	25,465
Percent						
Share of total nonmetro employment	1.1	.49	.89	.77	1	1.4
Region's share	100	5	8	11	9	10
Number						
Export-generated employment by sector: Farm	166,583	4,763	11,671	15,425	13,771	17,009
Percent						
Share of nonmetro farm employment due to agricultural exports	64	37	58	54	57	67
Number						
Dairy farm products	2,207	340	696	150	72	55
Poultry and eggs	7,675	528	427	1,214	1,798	1,893
Meat animals	29,879	328	1,932	1,590	690	611
Miscellaneous livestock	3,416	273	123	935	202	681
Cotton	18,431	0	0	1,591	2,019	8,393
Food grains	12,148	69	658	291	128	1,523
Feed grains	16,402	243	1,698	585	211	268
Grass seeds	231	1	4	2	6	3
Tobacco	5,560	70	44	4,587	712	0
Fruits	11,504	986	849	397	2,106	91
Tree nuts	6,104	50	5	217	786	75
Vegetables	8,915	608	1,114	471	1,378	186
Sugar crops	329	5	79	0	29	37
Miscellaneous crops	772	47	32	38	24	19
Oil-bearing crops	34,909	271	3,374	2,079	2,500	3,048
Forest products	150	6	9	45	19	8
Greenhouse and nursery products	7,952	939	626	1,234	1,092	117
Agricultural services	7,909	674	693	778	949	568
Food processing	26,087	1,811	2,587	3,112	2,796	3,240
Textiles	722	46	26	219	293	26
Tobacco manufacturing	491	0	0	490	1	0
Agricultural chemicals	2,067	49	50	270	617	306
Prepared feeds	3,372	199	290	294	337	218
Other nondurables	7,920	929	763	1,483	948	765
Durables	4,637	474	552	692	436	316
Eating and drinking	1,364	157	142	189	128	77
Wholesale and retail	13,866	1,437	1,326	1,960	1,270	1,055
Transportation	7,978	751	679	1,325	816	675
Other services	12,937	1,577	1,108	1,822	1,279	907
Mining and forestry	3,480	171	126	528	330	305

—Continued

Nonmetro employment generated by agricultural exports, 1994—Continued*The Corn Belt, Northern Plains, and Appalachian regions lead in export-related jobs*

Item	Corn Belt	Northern Plains	Southern Plains	Mountain	Pacific
	Number				
Total nonmetro employment	4,176,115	1,360,902	1,766,023	1,979,374	1,511,026
	Percent				
Region's share	17.7	5.8	7.5	8.4	6.4
	Number				
Employment due to agricultural exports	52,831	31,816	23,122	10,082	21,486
	Percent				
Share of total nonmetro employment	1.3	2.3	1.3	1	1.4
Region's share	20	12	9	7	8
	Number				
Export-generated employment by sector:					
Farm	36,034	24,450	16,277	11,804	15,378
	Percent				
Share of nonmetro farm employment due to agricultural exports	68	77	70	62	72
	Number				
Dairy farm products	306	117	133	187	151
Poultry and eggs	784	113	622	108	188
Meat animals	6,363	9,243	4,660	3,879	585
Miscellaneous livestock	161	255	311	337	138
Cotton	758	1	4,339	552	778
Food grains	866	4,751	1,377	1,827	658
Feed grains	6,899	4,113	899	1,177	309
Grass seeds	21	9	6	58	122
Tobacco	148	0	0	0	0
Fruits	323	8	66	361	6,307
Tree nuts	31	91	1,167	829	2,852
Vegetables	395	546	530	1,866	1,821
Sugar crops	2	49	11	77	38
Miscellaneous crops	122	109	6	88	286
Oil bearing crops	17,717	4,893	907	104	18
Forest products	14	2	6	2	40
Greenhouse and nursery products	1,124	141	1,238	353	1,088
Agricultural services	1,138	592	908	678	932
Food processing	4,605	2,999	1,917	1,591	1,430
Textiles	54	15	15	18	10
Tobacco manufacturing	0	0	0	0	0
Agricultural chemicals	388	57	81	196	52
Prepared feeds	948	425	475	136	51
Other nondurables	1,568	202	408	335	520
Durables	1,351	370	203	134	109
Eating and drinking	245	85	84	147	110
Wholesale and retail	2,696	1,162	980	1,135	846
Transportation	1,488	582	436	619	605
Other services	2,064	761	947	1,448	1,025
Mining and forestry	253	117	390	842	419

Source: Calculated by ERS from supporting ERS economic models using data from the Bureau of Economic Analysis, Bureau of Labor Statistics, Bureau of the Census, and USDA/ERS.

The table shows 14 aggregated sectors for which agricultural exports are particularly important. As might be expected, the farm products sector receives most of the employment generated in rural areas from agricultural exports. The 17 subsectors in the farm products sector have 64 percent of the nonmetro jobs generated by agricultural exports in 1994. More than 70 percent of all employment in four of those sectors (food grains, meat animals, oil bearing crops, and feed grains) is in nonmetro areas.

The remaining 13 groups in the table also had substantial numbers of rural jobs generated by agricultural exports. Food processing obtained 26,087 jobs, followed by 13,866 jobs obtained by wholesale and retail trade and 12,937 jobs obtained by the other service sectors.

In terms of a regional breakdown, the Corn Belt had 52,831 jobs in nonmetro areas as the result of agricultural exports in 1994, 20.3 percent of national nonmetro jobs generated by agricultural exports. Farm workers accounted for 36,034 of the Corn Belt jobs and, of these, 17,717 produced oil crops. In fiscal year 1994, the U.S. exported 24.1 million metric tons (\$6.9 billion) of oilseed and products. The Nation also exported 40.5 million metric tons (\$4.7 billion) of feed grains and products, and growing numbers of feedlots in the Corn Belt fattened cattle for export which created further demand for grain.

In the Northeast, not a major producer of export commodities, farm products accounted for only 37 percent (4,763 jobs) of the region's total nonmetro employment generated by agricultural exports—13,039 jobs. Yet, 8,276 nonfarm jobs supported agricultural exports. This region gained supporting employment from agricultural exports originating in other regions.

Freer Trade Promises Further Gains for Rural Economy

Agricultural exports are important for rural America. Domestic markets have reached a stage of maturity. The United States has a comparative advantage in agricultural exports, and that is where potential growth is in the future. Agricultural trade, which has often been constrained by the policies of many countries, has been moving toward multilateral and regional free trade through GATT and NAFTA agreements and the general acceptance of the World Trade Organization. This trade liberalization, which continues to open up more agricultural markets, should result in strong exports for U.S. products, with concomitant gains in employment for rural America. [*Chinkook Lee, 202-501-8340, chinlee@econ.ag.gov; William Edmondson, 202-219-0777, wedmonds@econ.ag.gov; Lowell K. Dyson, 202-219-0786, lkdyson@econ.ag.gov*]